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TECHNICAL MEMORANDUM

To: Michael Work, USEPA; James Ricks, USEPA
From: Karla Brasaemle, TechLaw, Inc.
Re: March 15, 2006 Crisp Avenue Field Visit
Date: March 20, 2006

On March 15, 2006, Tom Poole of TechLaw visited the area of Parcel E along Crisp Avenue where Lennar/CH2MHill is installing a replacement water line and where 2000 cubic yards of soil will be removed from Parcel E during regrading. Personnel on site included Gary MacIntyre, Lennar; Mike Mentink and Doug DeLong from the Navy CSO; and David Hodson of CH2MHill, who conducted the pre-excavation characterization sampling.

During the visit, TechLaw was given a Flow Chart for Abrasive Blast Material by Lennar (Figure 1); the Summary Report for the Pre-Construction Investigation Along Crisp Road, Parcel E, by CH2MHILL (contains Figures 2 and 3), which was already sent in Adobe Acrobat (.pdf format) to EPA; the Final Parcel A' Phase I Site Evaluation Report by Lennar, and photocopies of two construction drawings (SD-5 and SD-B).

The remainder of this technical memorandum is organized as answers to the questions posed to Lennar and CH2MHill.

1. Where is the excavation (which side of Crisp Avenue)?

Figures 2 and 3 show the location of the new 8 inch water line (WSL) as a bold line and the existing 8 inch water meter and WSL (Figure 3). From the corner of Crisp and Griffith, the line traverses the southern edge of Crisp about 5 to 10 feet from the IR-52 boundary (assumed to be the fence between the Crisp and the railroad tracks). The WSL will abut the IR-52 boundary in the vicinity of Building 820 (the building just west of the UCSF compound). The photograph of Pothole 3 shows the WSL at the fence. This pothole marks the crossing point for a Sanitary Sewer (SS) line (see Figure 2); the SS asphalt patch is seen in the photo "Pothole 3." It is possible that there is abrasive blast material (ABM) in this pothole (see Photo "Sand in Pothole 3"); the sand was a uniform grain size and it appears that the rocks visible in the photo had fallen in from above.

A jog in the WSL to the center of Crisp required an exploratory trench to locate underground utilities (Figure 3 and Photos "WSL jog and GMP" "WSL jog and Trench"). The western most gas monitoring probe (GMP) for IR01/21 is located within 10 feet of the jog in the trench, the other probes are more than 20 feet from the new WSL. The WSL continues down the middle of Crisp, and then jogs again to the point of connection (see Figures 2 and 3).

The city will install the water vault and meter at the corner of Crisp Ave. and Griffith Rd. (see proposed grading drawing on Figure 3); Lennar does not know how deep the city will excavate here. North of the UCSF compound, slope stability grading of the hillside will require additional removal of Parcel E soil to a depth of one to two feet below ground surface (ft bgs) from the north curb of Crisp Ave. to retaining wall H (see construction drawings SD-B and SD-5). This will begin at the connection point of the 8 inch WSL (see photo "Point of Connection" – the existing meter is located under steel plates in front of blue truck). The existing water vault in this area will also be removed (see Figure 3 and photo "Water Vault").

Finally, an exploratory trench was opened under the sidewalk on the north side of Crisp Ave, near the concrete lot west of former Building 816 (see photo "16 Inch Cap"). The trench exposes a 16" water line that supplies the existing water vault. The 16" line will be capped at this point, the remainder of the line (to the west) and the water vault will be removed from Parcel E (see Figure 3).

2. How wide/deep is the excavation?

The bottom of the trench in Crisp Ave. will be 40 inches bgs and about two feet wide, judging by the preliminary cuts in the road. Excavation depths are unknown for the city's new WSL meter. Excavation depths are also unknown for other utility work that will be performed by Lennar's subcontractor for the removal and capping of the existing WSL meter, existing water vault, and removal and capping of existing 16 inch WSL.

3. What are they installing/replacing?

See response to question 1.

4. Do they have a work plan for the work?

CH2MHill has not prepared a work plan for the WSL work. Gary MacIntyre (Lennar) stated that he has a verbal agreement with the Navy for tying into utility lines at roads, including underneath roads. CH2MHill performed pre-characterization analysis of the construction area on Parcel E. All personnel on site are trained to identify ABM and how to respond when ABM is discovered. Site personnel are shown photographs of Green Sand excavated at Mare Island and are instructed to follow procedures delineated in the attached figure when potential ABM is discovered. It should be noted that the procedure was designed for work on Parcel A; therefore, only the Navy and the Health Department will be notified if ABM or another hazardous material is discovered. It is not clear if the team is aware of the potential presence of Black Beauty ABM.

5. What laboratory is doing the analyses?

Curtis and Tomkins.

6. What analyses are being run? How did they determine which analyses, since this is not an IR-Site? What are the detection limits?

VOCs, SVOCs, Metals, PCBs, Pesticides, Asbestos. The analyses appear to have been selected to profile soil for waste disposal, although the required tests for flammability, ignitability, and corrosivity were not run. Detection Limits were not specified in the Sampling and Analysis Plan (SAP).

CH2MHill advised Lennar not to perform analysis for radiological constituents so this sample was not collected.

7. How many samples are being collected? What depth(s) is/are being sampled? Are the samples discrete or composite? Are any duplicate samples being collected?

Five composite samples were collected. One sample was a 4-point composite from four locations along the WSL trench. The other four samples were vertical composites from four boreholes in the Parcel E area north of Crisp Avenue that is to be regraded. There are no duplicate samples.

8. Are they analyzing samples for radiological constituents?

No radiological analysis was performed on pre-excavation samples. The SAP called for radiological analysis of a sample composited from the five composite samples, but this sample was not collected or analyzed.

9. Are they doing radiological surveys as they work?

No radiological survey is planned for the work. Tetra Tech (TTeci) may want to conduct a radiological survey of potential ABM.

10. Are they looking for sandblast grit?

Yes. Personnel are trained to identify ABM, historically used as utility line backfill.

11. Are they aware that sandblast grit was used to backfill along utility lines in some areas of Hunters Point?

Yes. The Navy also used ABM for backfilling of utility lines in Parcel A.

13. Are they aware that sandblast grit is likely contaminated (metals, PCBs, possibly radioisotopes)?

No, but Gary MacIntyre of Lennar is now aware that ABM at Hunters Point may be radiologically impacted.

14. Have they encountered any visibly stained soil? If so, where? What did they do with the soil?

During pre-excavation sampling and potholing, no staining was observed

15. Have they encountered any storm drain or sanitary sewer lines? Are they aware of the potential for radiological and chemical contamination in the vicinity of these lines? Is soil from these areas being handled differently?

Mr. MacIntyre consulted Pat Brooks (Navy) about the proximity of the new WSL to the storm drains (SD) and SS scheduled for removal by the Navy. Mr. MacIntyre believes that the WSL will be about 3 to 4 feet above the SD and SS lines; therefore, Mr. MacIntyre does not believe that soil impacted by the SS and SD lines will be encountered during the WSL work. It should be noted that Lennar also plans to install new SD lines in the future.

Based on the site visit and photographs, it appears that the new WSL is very close to the existing SS and SD lines and there are at least five places where the new WSL will cross SD/SS main lines and laterals. See photo "WSL jog and Trench," where a SD/SS manhole is mostly covered by the steel plate laid across the open trench. The partial manhole cover is located at the upper right corner of the steel plate in the photograph.

Because of the proximity of the WSL to the SD and SS, unless trench boxes are used to allow vertical excavation, it is likely that the excavations for the upcoming Parcel E SD and SS time critical removal action (TCRA) will be more difficult since the Navy/TTeci will have to protect the WSL. There is no provision for trench boxes in the Draft Final Project Work Plan, Base-Wide Storm Drain and Sanitary Sewer Removal. Further, trench boxes would not solve the problem that the water lines, which will be installed at a depth of 32 inches, cross above the deeper SD and SS lines. It would be preferable for this portion of the SD and SS TCRA to be completed before the WSL is installed. It is not clear why the existing water service cannot be used at the present; Lennar was not asked this question.

16. Are the stormwater controls adequate?

Soil excavated from Parcel E was place on 8 mil plastic sheets and covered with more plastic that is held down with rock weights. Storm water controls to keep Parcel A soil from eroding onto Crisp Ave do not exist along the shipyard boundary. Soil eroded from Parcel A would not likely be transported across Crisp Ave due to the crown of the road; however, there were no storm water controls along the curb of Crisp Avenue other than the covered stockpiles above.

17. Is all excavated soil being disposed of off-site at a landfill? (Or is some being used as backfill?)

All Parcel E soil will be sent to an offsite landfill (as specified in the pre-excavation sampling report).

18. Are there stockpiles? Is IR Site soil being segregated?

Mr. MacIntyre was unaware that any excavation would be conducted on IRP sites. TechLaw observed three Parcel E stockpiles, but Mr. MacIntyre stated that none came from an IRP site on Parcel E. Approximately 50 feet of the WSL abuts the IR-52 border.

19. What is the source of backfill soil? Has it been sampled for chemical constituents?

Mr. MacIntyre did not identify a backfill source, but stated that backfill will be screened and results of the analysis will be forwarded to TechLaw. We will forward a copy to EPA when we receive these results.

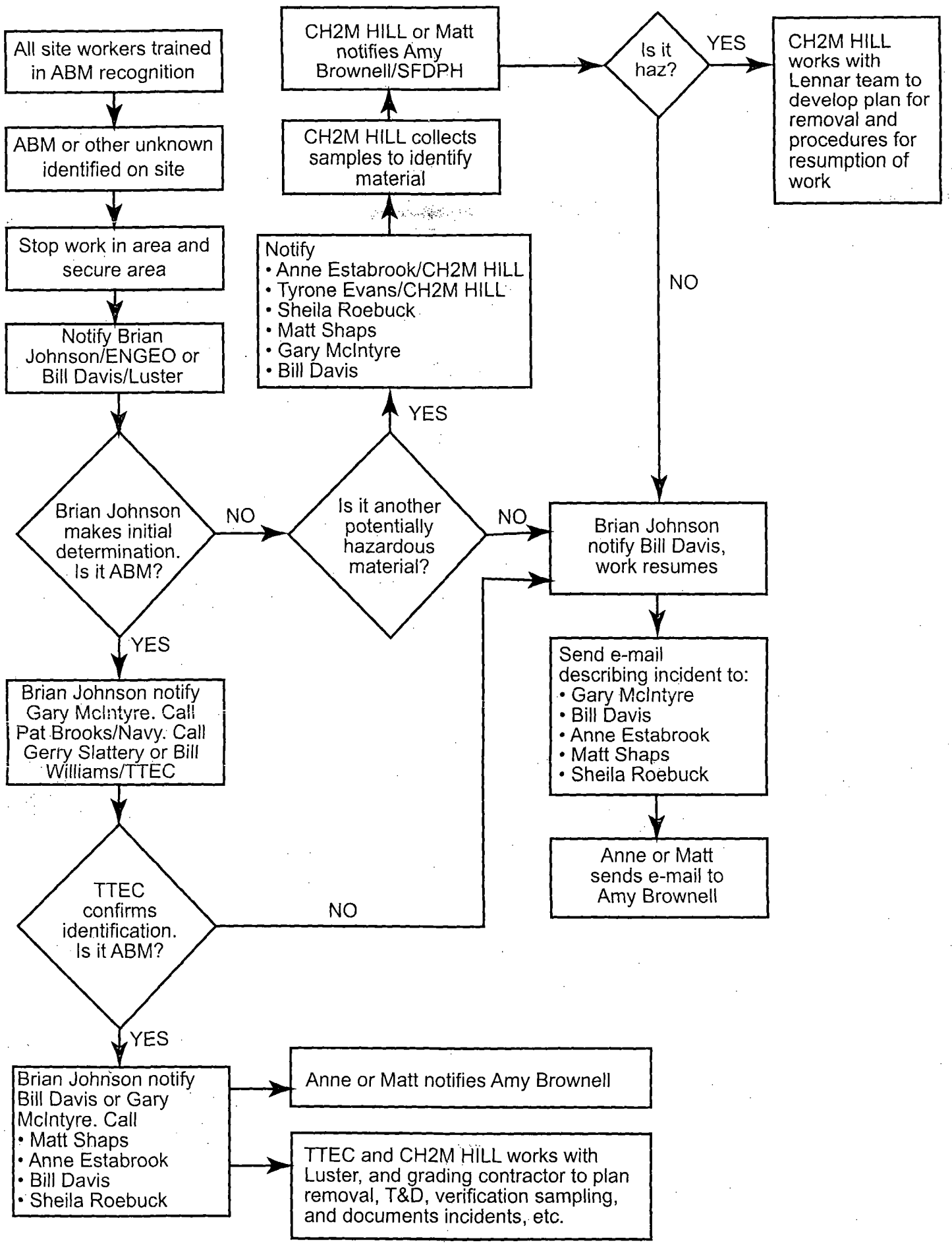
20. Are they protecting the gas monitoring probes (GMPs)?

The new water line will come within 10 feet of the western most GMP. At this point the waterline jogs north about 20feet then runs east down the center of Crisp Avenue. The remaining GMPs are located at least 20 feet from the new water line.

21. Where is the Parcel A/E boundary?

The boundary has been marked with survey stakes, and generally lies 20 ft. north of Crisp Ave. This is the area from which 2000 cubic yards of Parcel E soil will be removed during the regrading for Parcel A. A chain link fence currently delineates the boundary to the North West of the UCSF compound; north and east of the UCSF compound the boundary is marked with survey stakes since the fence has been removed.

Abrasive Blast Material (ABM) Identification and Reporting Procedure



ABM Notification Contact List

Name	Organization	Phone Number	Email Address
Gary McIntyre	Lennar/BVHP	510-332-6596	gary.mcintyre@lennar.com
Bill Davis	Luster	510-910-2357	bdavis@luster.com
Brian Johnson	ENGEO	925-570-4928	bjohnson@engeo.com
Patrick Brooks	Navy	619-532-0930	george.brooks@navy.mil
Gerry Slattery	TetraTech EC	415-860-6740	gerard.slattery@tteci.com
Bill Williams	TetraTech EC	415-671-1990	william.williams@tteci.com
Matt Shaps	Paul, Hastings, Janofsky and Walker	415-856-7088	matthew.shaps@paulhastings.com
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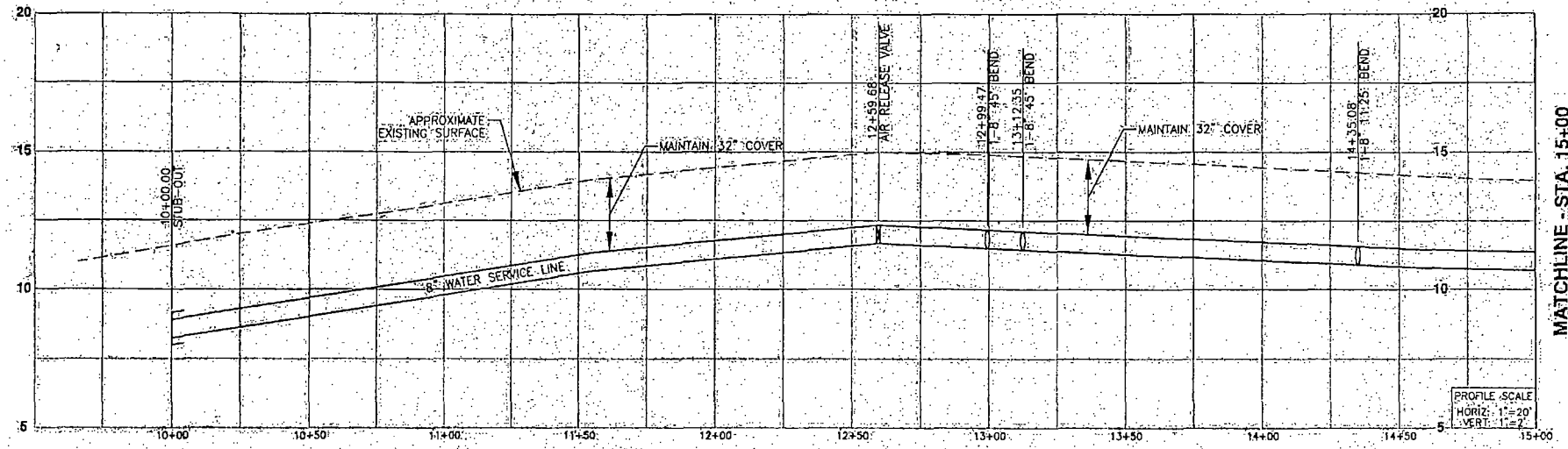
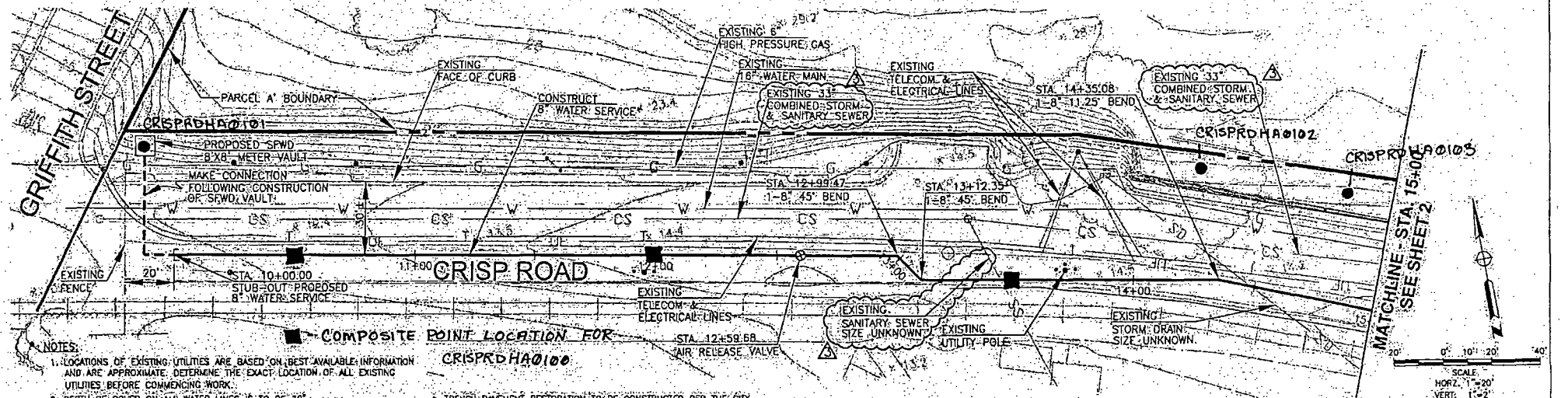
Sheila Roebuck	Lennar	707-557-8223	sheila.roebuck@lennar.com
Amy Brownell	SFDPH	415-252-3967	amy.brownell@sfdph.org

182122.31.05_ABM flow diagram_11/23/05_ccc_bao

Final



T - UE - elec.
T - tele
CS - Combined sewer



NOTES:

1. LOCATIONS OF EXISTING UTILITIES ARE BASED ON BEST AVAILABLE INFORMATION AND ARE APPROXIMATE. DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
2. DEPTH OF COVER ON ALL WATER LINES IS TO BE 32".
3. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH SAN FRANCISCO WATER DEPARTMENT STANDARDS. THE EXISTING WATER LINE SHALL BE TESTED AND CHLORINATED BEFORE TIE-IN OF NEW WATER LINE.
4. TRENCH PAVEMENT RESTORATION TO BE CONSTRUCTED PER THE CITY AND COUNTY OF SAN FRANCISCO STANDARD DETAIL 49.612.
5. LOCATION OF NEW WATER LINE TO BE CONFIRMED WITH CONSTRUCTION MANAGERS IN THE FIELD PRIOR TO CONSTRUCTION.

PRELIMINARY-NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	1/12/06	8" WATER SERVICE PROFILE PER SFWD
2	1/12/06	REDESIGN TIE-IN PER SFWD
3	1/12/06	UPDATE LABLES ON (E) UTILITIES
4	1/12/06	8" WATER SERVICE REALIGNMENT PER SFWD
5	1/12/06	ADD TEST AND CHLORINATION NOTE

REVISIONS

DESIGNED: S. TEORA
DRAWN: S. TEORA
CHECKED: R. TOOTHMAN
APPROVED: R. TOOTHMAN
RECOMMENDED
APPROVED
DATE

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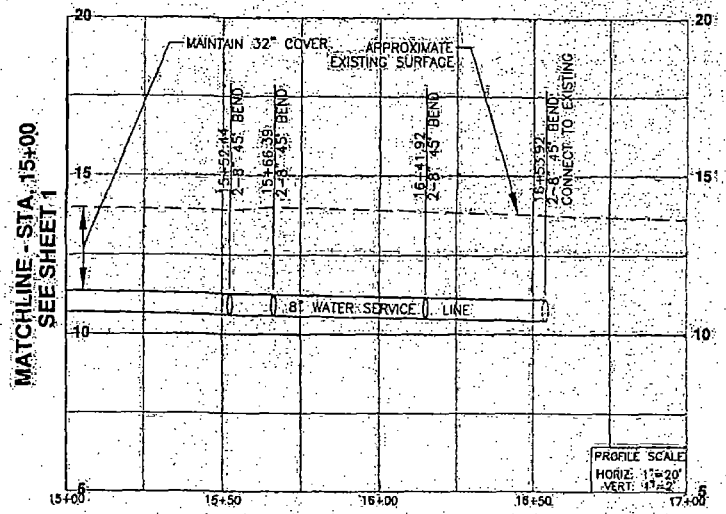
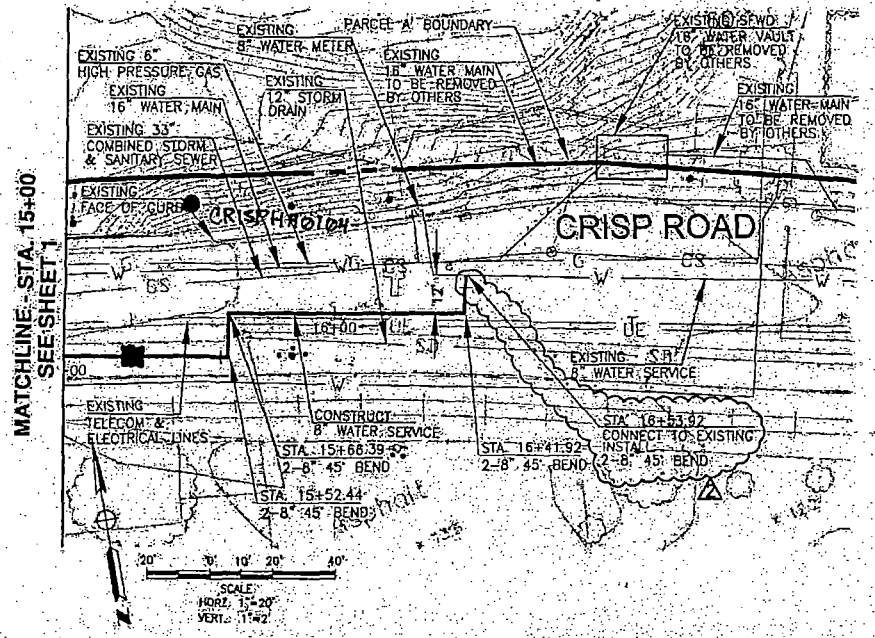
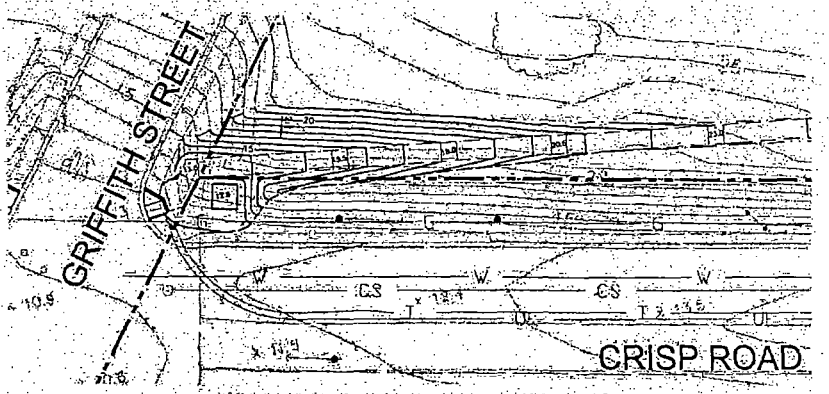
HUNTERS POINT SHIPYARD DEVELOPMENT PROJECT
FIGURE 2
8" WATER SERVICE
CRISP AVNEUE

SCALE: 1"=20'
CONTRACT:
REVISION: 01-19-06
SHEET 1 OF 2 SHEETS
DRAWING: W001







PROPOSED GRADING AT CORNER OF CRISP ROAD AND GRIFFITH STREET TO BE CONSTRUCTED PER GRADING PLANS FOR REFERENCE ONLY

NOTES:

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3. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH SAN FRANCISCO WATER DEPARTMENT STANDARDS. THE EXISTING WATER LINE SHALL BE TESTED AND CHLORINATED BEFORE TIE-IN OF NEW WATER LINE.
4. TRENCH PAVEMENT RESTORATION TO BE CONSTRUCTED PER THE CITY AND COUNTY OF SAN FRANCISCO STANDARD DETAIL 45.612.
5. LOCATION OF NEW WATER LINE TO BE CONFIRMED WITH CONSTRUCTION MANAGERS IN THE FIELD PRIOR TO CONSTRUCTION.

PRELIMINARY-NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	1/12/08	8" WATER SERVICE PROFILE PER SFWD
2	1/12/08	REDESIGN TIE-IN PER SFWD
3	1/12/08	UPDATE LABLES ON (E) UTILITIES
4	1/12/08	8" WATER SERVICE REALIGNMENT PER SFWD
5	1/12/08	ADD TEST AND CHLORINATION NOTE

REVISIONS

DESIGNED S. TEORA
DRAWN S. TEORA
CHECKED R. TOOTHMAN
REVIEWED R. TOOTHMAN
RECOMMENDED
APPROVED
DATE

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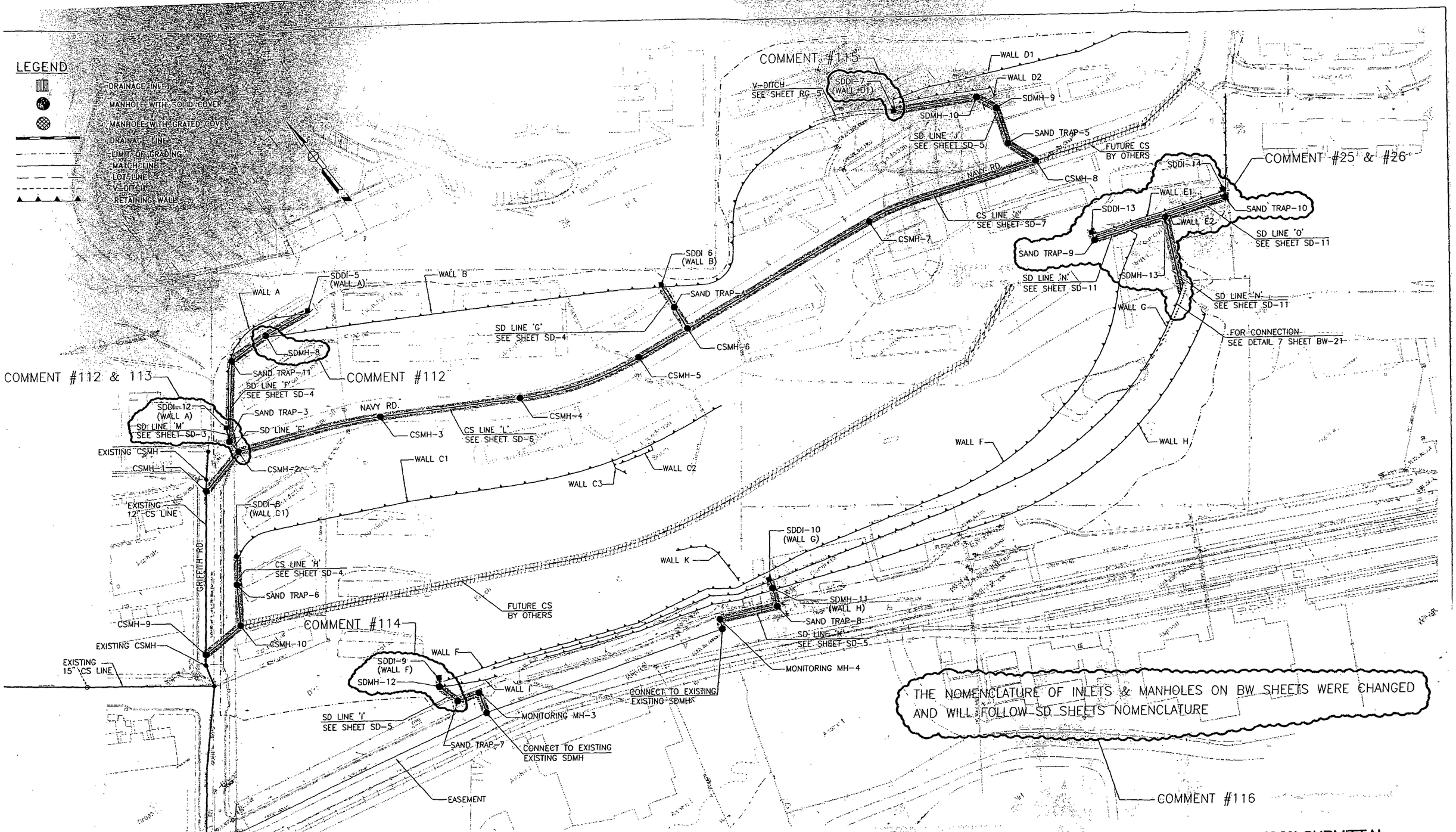
HUNTERS POINT SHIPYARD DEVELOPMENT PROJECT
FIGURE 5
8" WATER SERVICE
CRISP AVENUE

SCALE 1"=20'
CONTRACT
REVISION 01-19-08
SHEET 2 OF 2 SHEETS
DRAWING W002



HILLSIDE STORM DRAIN SYSTEM

100% SUBMITTAL

12-04	35% SUBMITTAL	KO	LR
6-04	65% SUBMITTAL	KO	LR
-04	90% SUBMITTAL	KO	LR
5	100% SUBMITTAL	KO	LR
	100% SUBMITTAL REVISION	KO	LR
	100% SUBMITTAL REVISION	KO	LR
	100% SUBMITTAL REVISION	KO	RT

DESIGNED	KBO
DRAWN	KBO
CHECKED	LDR
REVIEWED	SJA
RECOMMENDED	

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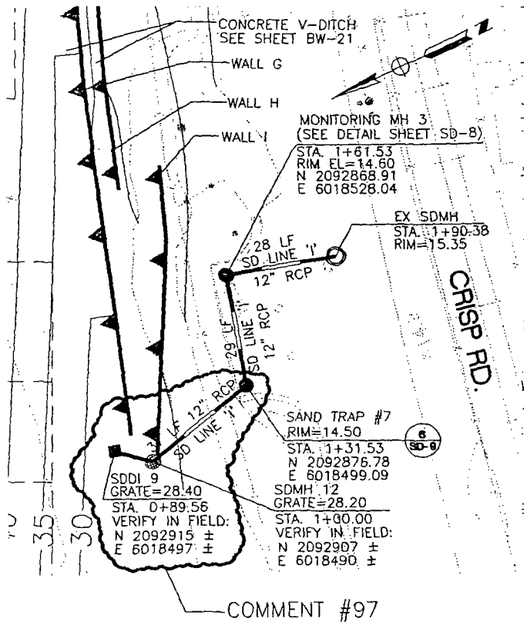
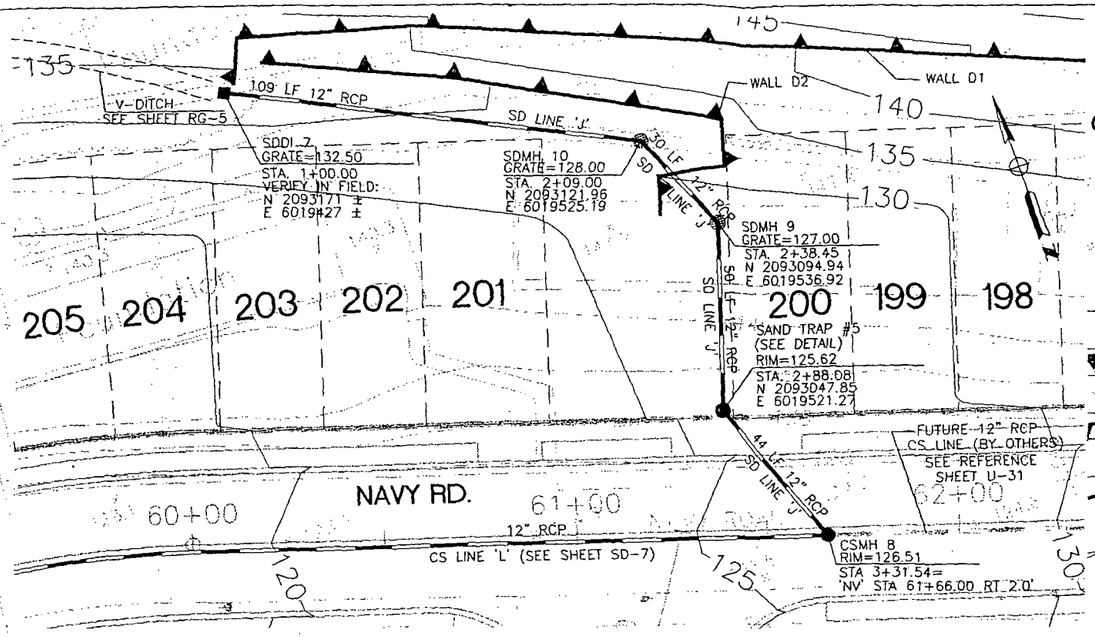
HUNTERS POINT SHIPYARD DEVELOPMENT PROJECT
PARCEL A' INFRASTRUCTURE

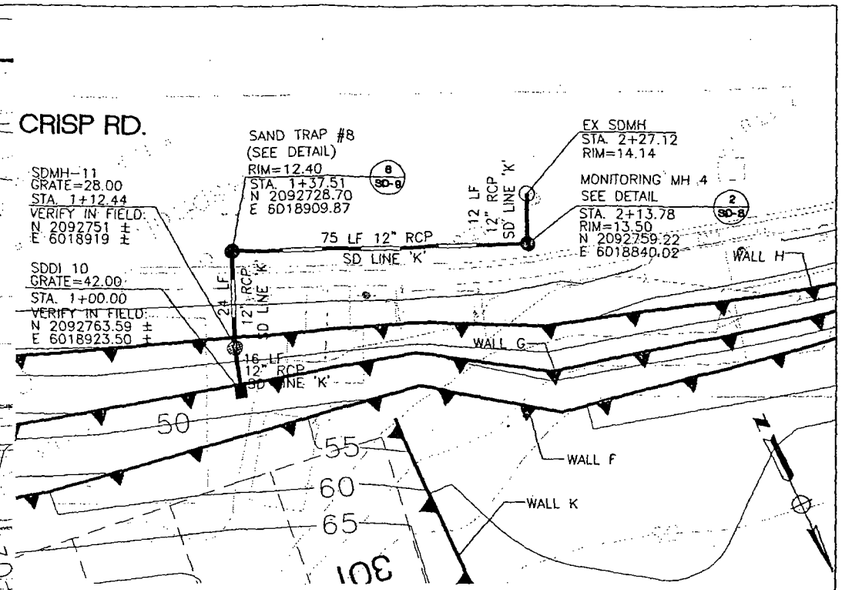
STORM DRAIN KEYMAP

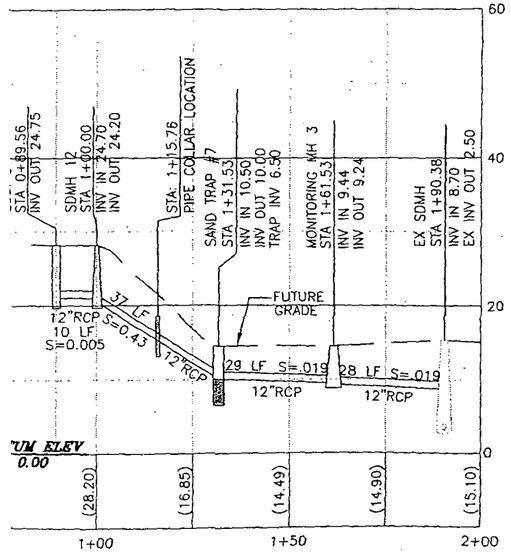
SCALE	HORIZ: 1"=60'
CONTRACT	
REVISION	09-07-05
SHEET	71
DRAWING	



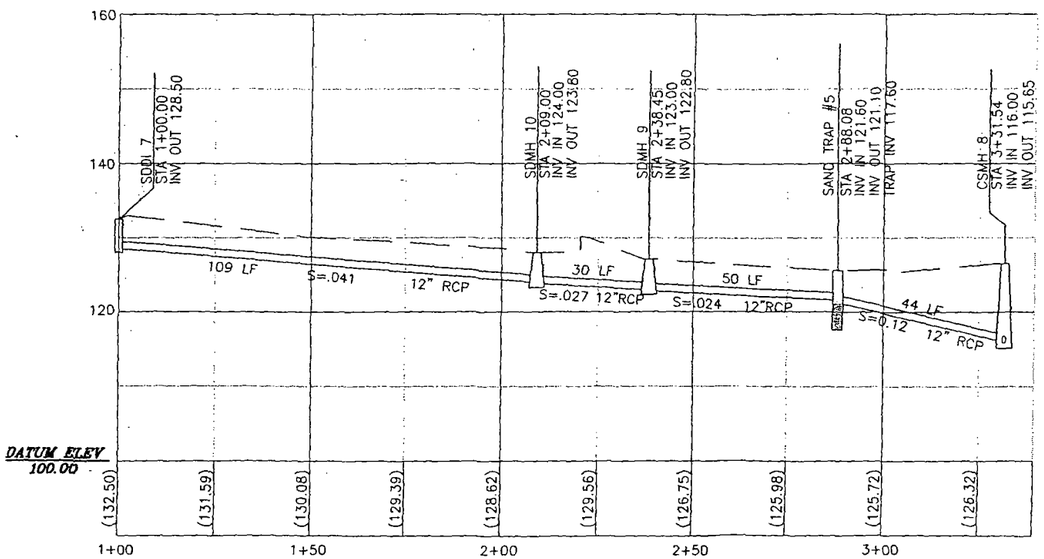
COMMENT #97



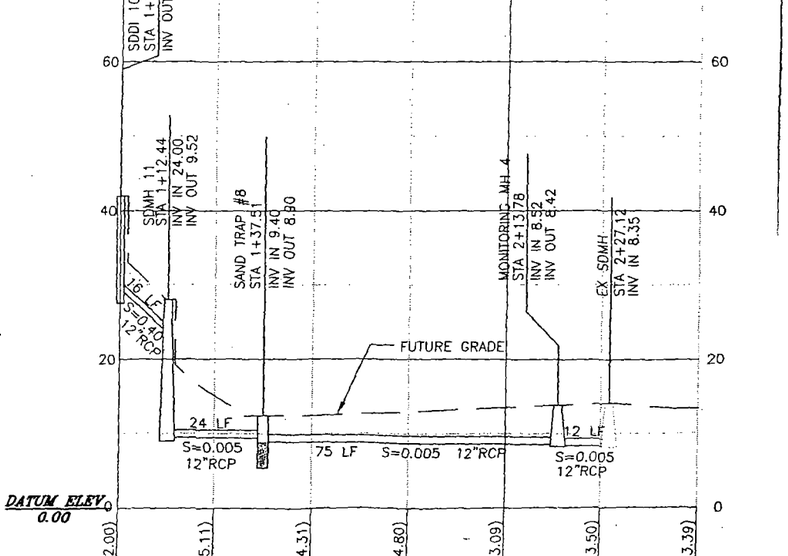




SD LINE 'I'



SD LINE 'J'



SD LINE 'K'

THE NOMENCLATURE OF INLETS & MANHOLES ON BW SHEETS WERE CHANGED AND WILL FOLLOW SD SHEETS NOMENCLATURE

COMMENT #99

40' 0' 40' 80'

GRAPHIC SCALE

100% SUBMITTAL

35% SUBMITTAL	FC	LR	
65% SUBMITTAL	FC	LR	
90% SUBMITTAL	FC	LR	
100% SUBMITTAL	FC	LR	
100% SUBMITTAL REVISION	FC	LR	
100% SUBMITTAL REVISION	FC	LR	
100% SUBMITTAL REVISION	FC	RT	
	DESIGNED	CHECKED	APPROVED

DESIGNED	KBQ
DRAWN	KBQ
CHECKED	LDR
REVIEWED	SJA
RECOMMENDED	
APPROVED	

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HUNTERS POINT SHIPYARD DEVELOPMENT PROJECT
PARCEL A', INFRASTRUCTURE

SCALE HORIZ: 1"= 20'
VERT: 1"= 10'

CONTRACT

REVISION 09-07-05

CRISP AVENUE VISIT PHOTOGRAPHS

Pothole 3

Sand in Pothole 3

WSL Jog and GMP

WSL Jog and Trench

Point of Connection

Water Vault

16 Inch Cap